



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,251	12/15/2003	Nobuo Sasaki	1071.1051	8952

21171 7590 09/07/2005

STAAS & HALSEY LLP
SUITE 700
1201 NEW YORK AVENUE, N.W.
WASHINGTON, DC 20005

EXAMINER

PERRY, ANTHONY T

ART UNIT	PAPER NUMBER
----------	--------------

2879

DATE MAILED: 09/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary

Application No.

10/734,251

Applicant(s)

SASAKI, NOBUO

Examiner

Anthony T. Perry

Art Unit

2879

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 and 14-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-12, 14-16 and 18-24 is/are allowed.
- 6) ☒ Claim(s) 1 and 17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/23/05 has been entered.

Claim 13 has been canceled.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sakaguchi (US 6,520,819) in view of Shunichi et al. (JP 2000-323276).

Regarding claim 1, the Sakaguchi reference teaches a method of manufacturing an organic EL device comprising the steps of forming grooves extending over two or more pixel sites in an insulation film (11) on a substrate (1) and filling said grooves with an EL element (see Fig. 9). Sakaguchi does not specifically state that the EL element material is dissolved in a solution and the solution is dried.

However, Shunichi teaches a solution in which an organic EL element material is dissolved that is filled in grooves by a printing method providing a simple patterning method within short periods of time while maintaining precision, to easily design the films, to optimize light-emitting property, and to easily adjust the light-emitting efficiency (see the abstract and Fig. 4). The solution is dried in order to remove the solvent, leaving the luminescent layers.

Accordingly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a solution in which an organic EL element material is dissolved so that a more efficient and cost effective inkjet printing method may be used in place of the complicated process of using a shadow mask that must be aligned with the separate grooves to be filled with a particular organic EL material and repeating the alignment for each additional set of grooves of a different color as taught by Sakaguchi.

In the combined invention of Sakaguchi and Shunichi each groove extends over two or more pixel sites and would necessarily be filled in a single printing operation.

Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shunichi et al. (JP 2000-323276) in view of Sakaguchi (US 6,520,819).

Regarding claim 17, the Shunichi reference teaches a method of manufacturing an organic EL device comprising the steps of forming grooves in an insulation film (105) on a substrate (104) and filling said grooves with a solution in which a material that becomes a buffer layer (120) between an organic layer (106,107,108) and an electrode (101,102,103) is dissolved (see the abstract and Fig. 4). The solution is dried in order to remove the solvent, leaving the buffer layer (120). Shunichi does not specifically teach the grooves extending across two or more pixel sites.

However, Sakaguchi teaches the grooves extending over more than two pixel sites (see Fig. 9). Such a structure allows for a less complicated printing of the buffer layers since an entire row extending over multiple pixel sites can be filled at once instead of having to stop and start for each individual pixel. One of ordinary skill in the art would have found it obvious at the time the invention was made to have had the grooves extending the entire length of the area containing pixels so as to simplify the printing process of the Shunichi reference.

Allowable Subject Matter

Claims 2-12, 14-16, and 18-24 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Regarding claims 2, 4, and 8, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims, and specifically comprising the limitation of forming stoppers that prevent the solutions from filling the entire groove and then removing the stoppers.

Regarding claim 3, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims, and specifically comprising the limitation of the grooves extending over two or more pixel sites with their edge portions being shifted from one another and immersing the shifted edge portions in two separate solutions containing two different EL materials.

Regarding claims 5-7, 9-11, and 19-21, claims 5-7, 9-11, and 19-21 are allowable for the reasons given in claims 2, 4, and 8 because of their dependency status from claims 2, 4, and 8.

Regarding claims 12 and 22, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims, and specifically comprising the

Art Unit: 2879

limitation of the pixels being made up of plural sets of grooves wherein each set of grooves is formed of different colors. The prior art teaches pixels made up of plural grooves wherein each groove is filled with a different color (one containing red, one containing green, and one containing blue), but does not teach plural sets of grooves per pixel (more than one groove having the same color as another formed in the same pixel region). It is noted that the term "pixel region" refers to a single pixel and not a group of pixels.

Regarding claims 14-16 and 23-24, claims 23-24 are allowable for the reasons given in claim 22 because of their dependency status from claims 12 and 22.

Regarding claim 18, the references of the Prior Art of record fails to teach or suggest the combination of the limitations as set forth in claims, and specifically comprising the limitation of the grooves being filled by capillary phenomenon with a solution in which a material that becomes an electrode is dissolved.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Anthony Perry* whose telephone number is **(571) 272-2459**. The examiner can normally be reached between the hours of 9:00AM to 5:30PM Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimesh Patel, can be reached on (571) 272-24597. **The fax phone number for this Group is (703) 872-9306.**

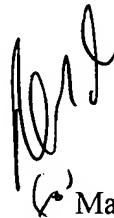
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

Art Unit: 2879

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Anthony Perry
Patent Examiner
Art Unit 2879
September 2, 2005



Mariceli Santiago
Primary Examiner
Art Unit 2879